

# HPC-1550

## LONG SING

Hybrid Pulse Capacitor (HPC) for IOT batteries



### Performance Data

(Typical values for batteries stored at +25°C for one year)

System	Hybrid Pulse Capacitor cell
Version	HPC1550
Capacity When Charge to 3.67V	>620AS
Capacity When Charge to 3.9V	>1200AS
Max. Pulse Current	3A
Discharge End Voltage	2.5V - End voltage can reach 2.0V at -20°C
Max.Charge Voltage	3.67V 3.9V
In Parallel	ER(3.6V) ER(3.9V)
Charging Method	self balancing charging
Temperature Range	-40°C~+85°C
Cell Impedance @ 1kHz,RT	max. 60mΩ
Weight	20.0g
Dimension	Φ14.5*H50.0mm

### Self Discharge Current

Temperature	@3.67V	@3.9V
20°C	5.5uA	10uA
40°C	12uA	21uA

### Key Features

- Full seal technology
- Extremely low self discharge rate
- Wide operating temperature range
- Low capacity, high pulse current safe design

### Main Applications

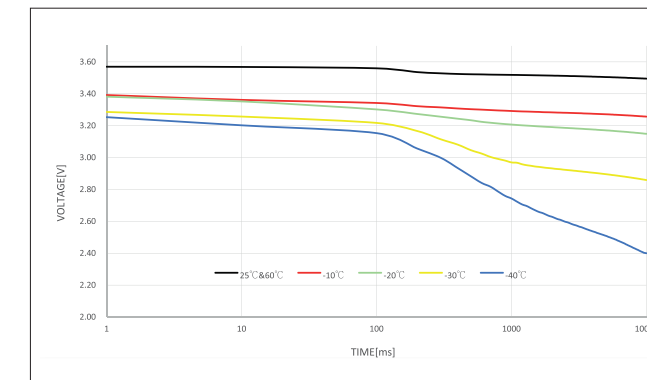
- Long service life, high pulse current applications
- Long service life GPS+GSM applications
- Utility Meters(AMR)
- Asset, Container & Cargo Tracking
- Communication Equipment
- Sonar Buoys
- Security & Medical Device

### Safety:

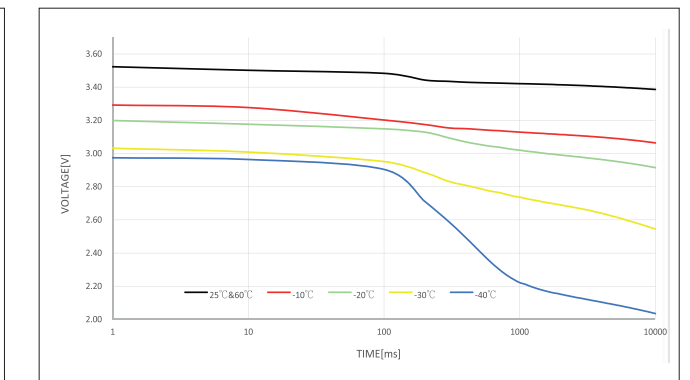
UL1642 , IEC62133 , UN38.3

### Performance Data

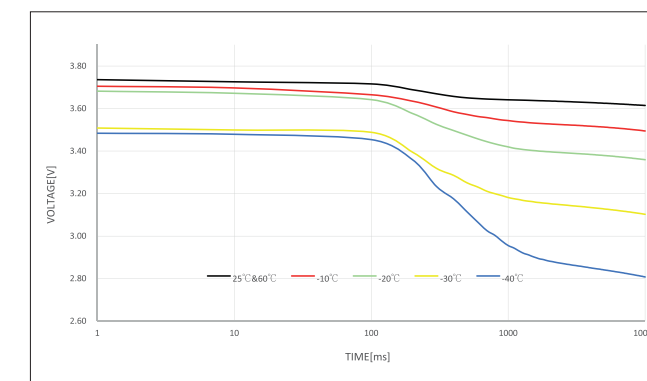
Voltage curves for HPC1550 at Li/SOCI2 potential (3.67 V), 750 mA



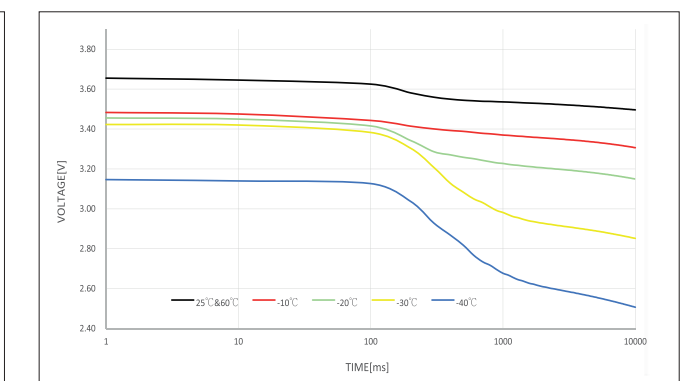
Voltage curves for HPC1550 at Li/SOCI2 potential (3.67 V), 1200 mA



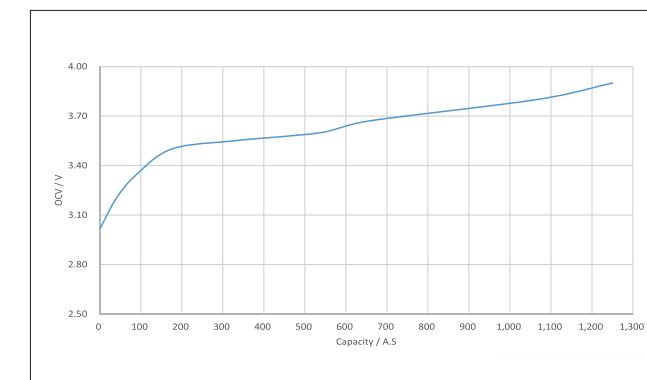
Voltage curves for HPC1550 at Li/SOCI2 potential (3.90 V), 750 mA



Voltage curves for HPC1550 at Li/SOCI2 potential (3.90 V), 1200 mA



Available capacity vs. OC V f or HPC1550 (at RT, 100mA charge 250 mA discharge)



### HPC used in a IOT battery pack (ER+HPC) usage considerations

- HPC is the key for high current pulse and low temperature load capability in ER+HPC battery pack.
- The capacity of HPC can be ignored for the length of life time in the ER+HPC battery pack.
- The self-discharge of HPC can be ignored for the battery life of ER+HPC, which is mainly affected by the capacity attenuation of ER.
- The whole ER+HPC IOT batteries can not be charged.

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## LONG SING

Hybrid Pulse Capacitor (HPC)

## Performance Data

(Typical values for batteries stored at +25°C for one year)

System	Hybrid Pulse Capacitor cell	Max.Charge Voltage	4.1V
Version	HPC1550	Nominal Charge Current	100mA(-20°C-60°C)
Nominal Voltage	4V	Charge Current	20mA(-40°C-85°C)
Nominal Capacity	>450mAh	Cell Impedance @ 1kHz,RT	60 mΩ
Nominal Discharge Current	250mA	Nominal Energy	1.8Wh
Max.Continuous Discharge Current	5000mA	Weight	20.0g
Discharge End Voltage	2.5V	Dimension	Φ14.5*H50.0mm

## Key Features

- Rechargeable
- Up to 5000 cycles
- Glass-to-metal seal technology
- Extremely low self discharge rate
- Charging possible at extreme temperatures

## Main Applications

- Utility Meters(AMR)
- Asset, Container & Cargo Tracking
- Communication Equipment
- Sonar Buoys
- Emergency Call

## Safety:

UL1642 , IEC62133 , UN38.3

## Warning:

- Fire, explosion, and severe burn hazards.
- Do not disassemble, heat above 100°C, short circuit, incinerate or expose contents to water.
- Do not charge above 4.1V.

## Performance Data

